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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,317	07/02/2002	Patricia S. Bunt	BUR920010174	8271

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EXAMINER

GUERRERO, MARIA F

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,317

Applicant(s)

BUNT ET AL.

Examiner

Maria Guerrero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-6-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This Office Action is in response to the Amendment filed June 24, 2003 and the Election filed October 6, 2003.

Claims 1-16 are canceled.

Claims 17-36 are pending.

Election/Restrictions

2. The Restriction mailed September 4, 2003 has been withdrawn. Applicant's arguments are persuasive.

Information Disclosure Statement

3. The information disclosure statement filed July 7, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Applicant has not provided the documents listed on the Remarks.

Specification

4. The disclosure is objected to because of the following informalities: the terms "chip and problems" are misspelled on page 2, line 19.

Appropriate correction is required.

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The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The abstract of the disclosure is objected to because recites the term "disclosed". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 27-29, 31,34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones, Jr. et al. (U.S. 4,835,118) (of record).

Jones, Jr. et al. teaches electrically activating a dopant on a programmable element in a semiconductor device (Abstract, col. 3, lines 25-40, col. 6, lines 29-32). Jones, Jr. et al. teaches forming a layer on the semiconductor substrate, the layer comprises a cap portion that includes an insulative material, and is in direct mechanical contact with the semiconductor substrate (Fig. 6, col. 6, lines 45-57). Jones, Jr. et al. teaches exposing the programmable element to actinic radiation using laser radiation to decrease resistance (inherent). Jones, Jr. et al. shows the laser radiation passing through the insulative material cap portion and propagates to the programmable

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element region without causing mechanical deformation to the programmable element (Abstract, Fig. 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 17, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. 4,462,150).

Nishimura et al. teaches doping a semiconductor material, exposing the programmable element to actinic radiation, and determining the resistance value (col. 2, lines 65-68; col. 3, lines 1-2, 23-27, 38-47).

Nishimura et al. does not specifically show determining a test resistance value of the programmable element and comparing to a specific precise resistance. However, Nishimura et al. measured the resistance value and use the value to determine that the circuit elements and the spare element were electrically connected (col. 3, lines 38-47; col. 4, lines 20-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to recognize that Nishimura et al. is selecting a precise

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resistance in order to confirm the electrical activation process and to avoid defects (col. 3, lines 38-47).

Claims 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. 4,462,150) in view of Jones, Jr. et al. (U.S. 4,835,118) and Mehta et al. (U.S., 5,795,627).

Nishimura et al. does not specifically show the cap portion being in direct contact to the substrate and the laser passing through the cap portion (silicon nitride). However, et al. teaches forming a layer on the semiconductor substrate, the layer comprises a cap portion that includes an insulative material, and is in direct mechanical contact with the semiconductor substrate (Fig. 6, col. 6, lines 45-57). Jones, Jr. et al. shows the laser radiation passing through the insulative material cap portion and propagates to the programmable element region without causing mechanical deformation to the programmable element (Abstract, Fig. 4). In addition, Mehta et al. teaches the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions (col. 3, lines 18-43, col. 5, lines 10-14, col. 7, lines 30-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Nishimura et al. reference by including the cap portion as taught by Jones, Jr. et al. and Mehta et al. in order to avoid damage (Mehta et al., col. 3, lines 18-21).

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7. Claims 30, 32-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones, Jr. et al. (U.S. 4,835,118) in view of Mehta et al. (U.S., 5,795,627).

Jones, Jr. et al. does not specifically show the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions. However, Mehta et al. teaches the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions (col. 3, lines 18-43, col. 5, lines 10-14, col. 7, lines 30-33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Jones, Jr. et al. reference by including the wavelength, the cap portion including silicon dioxide or silicon nitride and providing the trench isolation regions as taught Mehta et al. in order to avoid damage (Mehta et al., col. 3, lines 18-21).

Response to Arguments

8. Applicant's arguments with respect to claims 17-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Maria Guerrero
Maria Guerrero
Patent examiner
December 17, 2003